Page 3, fourth full paragraph:

Increased vertical loading to exceed Plate C, as in a Plate F car, may tend also to increase the height of the center of gravity of a loaded car above the allowable vertical center of gravity height limit of 98 inches measured from top-of-rail (TOR). Consequently it may be desired to drop the center portion of the deck further to once again lower the center of gravity. However, as the deck is dropped further, the deck must also become narrower to remain within the AAR design envelope, whether of Plate C or Plate F. Further still, when the truck centers of the car exceed 46 ft. 3 in., the mid-span car width must be reduced due to swing out as the car travels through corners. That is, the car must lie within the design envelope of a 10'- 8" wide car with 46' – 3" truck centers, on a 13° curve (equivalent to a track center radius of 441.7 ft.).

Page 7, second full paragraph:

In a further aspect of the invention, there is a rail road car having a longitudinal centerline. It comprises a pair of rail car trucks and a center beam assembly carried thereupon. The center beam assembly has a lower flange assembly, an upper flange assembly, and a web assembly extending between the upper and lower flange assemblies. The web assembly has a plurality of upwardly extending posts. The posts have a lower region and an upper region. The web assembly has a non-consumable skirt mounted to the upper region of the posts. The skirt presents a bearing surface. The bearing surface faces laterally outward relative to the longitudinal centerline of the rail road car. Cargo can bear against the bearing surface.

Page 8, third full paragraph:

In yet another additional feature, the medial decking portion lying between the two trucks is at least 28' - 0" long. In a further additional feature, the medial decking portion lying between the two trucks is at least 40' - 0" long.

Page 9, second full paragraph:

In still yet another additional feature, the car has a pair of side sills extending along the deck structure. The side sills each have a side sill medial portion mounted to the medial decking portion. The medial side sill portion has a first depth of section. The side sills each have side sill end portions mounted to the end decking structures. The side sill end portions have a second depth of section. Each of the side sills has a knee joining the side sill medial portion to each of the side sill end portions. Each knee has a longitudinally inboard flange, a longitudinally outboard flange, and webbing extending therebetween. The longitudinally outboard flange has a lower extremity and an upper extremity. The lower extremity lies at a longitudinally inboard station relative to the upper extremity.

Page 13, line 12:

Figure **2a** shows a side view of a center beam rail road car similar to the center beam car of Figure **1**;

Page 15, fourth full paragraph:

In detail, main center sill **36**, is a fabricated steel box beam that extends longitudinally along centerline **25** of car **20** throughout its length, having couplers **38** mounted at either end. Cross bearers **40** extend outwardly from center sill **36** to terminate at a pair of longitudinal left and right hand side sills **42, 44** that also run the length of the car. In the various embodiments of rail cars shown herein, cross-bearers are indicated as item **40** and cross-ties are indicated as item **39**. These cross bearers and cross ties extend laterally outward from center still **36** on approximately 4 ft centers. Decking **46** is mounted to extend between cross-bearers **40**, and cross-ties **39** providing a shear connection between adjacent cross-bearers when side loads are imposed on the car. Structural members in the nature of tapered risers **48** are mounted above the cross-bearers to form the base of a bunk for carrying loads. Risers **48** are tapered so that loads stacked thereupon will tend to lean inwardly toward the center-line of car **20**. The upper surfaces of risers **48** define respective end decking portion and medial decking portion load-bearing interfaces. The combined structure of center sill **20**, cross-bearers **40**, and side sills **42, 44** and

decking **46** provides a wide, lower beam or lower flange assembly extending laterally outward from the longitudinal centerline of car **20**.

Page 17, third full paragraph:

Figures **4a** and **4b** are half sectional views of center beam railroad car **70** taken, respectively, at cross-tie **39** of end deck portion **27** looking inboard parallel to centerline **25**, and at mid- span of medial deck portion **29**, looking toward the nearest adjacent cross-bearer **40**. The outline of AAR Plate **F** is indicated generally as **'F'**. A main center sill is indicated, as above, as **36**. It has an upper horizontal member in the nature of upper main flange **102**, and a pair of spaced apart vertical shear carrying members in the nature of left and right hand main sill webs **103, 104**, thus forming three sides of a box. The fourth side of the box is formed by a lower horizontal member, in the nature of a main sill lower flange **106**. Lower flange **106** has an end portion, running along the outboard portion of main sill **36**, in a manner similar to a stub sill, indicated in Figure **3a** as **108** at a height for mounting upon truck **22** or **23** as the case may be. The rectangular female socket **28** defined by the inner walls of items **102, 103, 104** and **108** is of a size and shape for receiving the male end of a coupler, such as coupler **38**.

Page 19, second full paragraph:

In Figure **4d**, side sill end portion **152** also has the form of a skewed C-channel, having an outwardly and upwardly slanted web or back **154** having an upper edge and a lower edge, the upper edge lying further transversely outboard than the lower edge. Back **154** is inclined from the vertical at an angle ψ. ψ is less than β described above. Side sill end portion 152 has a top flange **156** that is substantially level in a horizontal plane, and a bottom flange **158** that is parallel to top flange **156**, but inwardly inset according to the horizontal run of slanted back **154**. Winches **160** (not shown in Figure **3a**) are mounted at the longitudinal stations corresponding to main bolster **142** and cross ties **146, 148, and 150**.

Page 20, first full paragraph:

Knee 47 is located at the transition, or step, between end portion 28 and medial deck portion 29. Knee 47 is located at a mid-bay longitudinal station between the longitudinal stations of formed post 206 and fabricated post 208. A laterally extending, generally horizontal transition flange 210 extends flush with, and between, main sill lower flange 107 and side sill medial portion upper flange 102. At the same longitudinal station, a side sill end portion stiffener, in the nature of a rectangular tube 216, is mounted to extend between center main sill 36 and the inboard end of side sill end portion 152. A vertical wall member, in the nature of a well bulkhead sheet 220 is mounted to extend vertically upward from transition flange 210, past the inboard end of side sill end portion 152 and rectangular tube 216, up to the level of false floor sheet 188. Sheet 220 terminates at its upward end in a formed flange 222, which overlaps, and is welded to, sheet 188. An inner tapered gusset 226 is located at the longitudinal station of transition flange 210 and extends between the inner face of medial side sill portion and the underside of transition flange 210. Similarly, at the same longitudinal station, a side sill gusset 230 reinforces the section of side sill portion 126.

Page 20, second full paragraph:

As viewed from the side of car 70 as illustrated in Figure 3a, knee 47 appears to have a longitudinally inboard vertical flange 232, that is, the transversely outboard or distal margin of well bulkhead sheet 220, and an outboard, angled flange 234 that faces, generally, toward truck 23, with a web or webs extending between sheet 220 and flange 234. Flange 234 includes three aligned portions. The first, lowest portion is a side sill gusset member 236, that closes the end of side sill portion 126 and extends upwardly on a slant toward the lower or bottom flange 158 of side sill end portion 152, to a locus of intersection somewhat inboard of the longitudinal station of formed post 206. The line of member 236 is continued by side sill end portion gusset 238, which is slanted to lie within the flanges and back of side sill end portion 152, and by a false floor gusset 239, located on the same angle between the top flange of side sill end portion 152 and false floor sheet 188. A trapezoidal gusset 240 fills the void between the bottom flange 158 of portion 152, the upper or top flange 130 of the end of medial portion 126, sheet 220, and flange 234. When seen in end view, as in Figure 4a, flange 234, and the outboard edge of sheet 220, both follow an upwardly and outwardly angled profile, lying within Plate F. Providing an

angled flange in this way, and thereby effectively deepening the width of section of vertical flange 232 of knee 47 may tend to increase the width of structure over which a moment couple generated in side sill medial portion 126 can be carried, thus tending to reduce the stress levels in the transition. Flange 234 terminates, at its upward and outward end, at false floor support top flange 185. Upper main sill flange 102 is trimmed back flush with main sill side webs 103 and 104 in the well section or medial portion of the car so that a smooth face is presented next to the lading.

Page 24, second full paragraph:

Rear facing flange member 408 is made from a bent plate cut to the desired profile. An upper leg 428 of member 408 runs downwardly from the end of the lower flange 427 of end side sill portion 380 (or 382) on an angle along the edge of quadrilateral web portion 410. It bends downward into a lower leg 430 lying in a vertical plane at the longitudinal station of the end of the medial portion 384. Member 408 also has an inwardly tending leg 432 cut to a similar profile to leg 422 and toe 424, although having greater width when seen perpendicular to the vertically extending plane. A gusset 434 seats within the end section of side sill medial section 384 in the plane of leg 432, in a manner similar to gusset 426.

Page 24, third full paragraph:

Lower cross-member 418 is an angle iron having one leg 436 trimmed to lie in a vertical plane, perpendicular to the longitudinal centerline of car 350, between side web 360 (or 361) of main sill 356 and the trimmed transition of front flange member 406. The other leg 435 of member 418 is trimmed to lie between, and be welded to, the outer edge of bottom flange 364 of main sill 356 and the juncture of the back or web, and upper flange of medial side sill portion 384. A stringer in the nature of an upwardly opening channel 438 extends from a hangar bracket web mounting 437 on the underside of member 418 to the first cross-bearer 439 (Figure 2g).

Page 25, third full paragraph:

In the one embodiment, car **70** has a well deck portion that is 40 ft-6 in. long. The internal lading height of the well, that is, the nominal loading height of the bunk defined between the medial decking portion load bearing interface and the wings **65, 67** (Figure **7a**) of top truss **64** is 165 inches. As such, the height of top truss **64** from TOR, at roughly 16 ft-7 in., significantly exceeds the AAR Plate C maximum allowable height of 15 ft-6 in. The upper flange of main sill **36** is carried at a height, relative to TOR, that is high enough to permit the top surface of the coupler to fit within main center sill **36** as in a socket. The centerline coupler height is 34 ½ inches above TOR. For a Plate F car, the height of the top of the coupler head is roughly 40 ¾ inches above TOR for a car, as new, with un-worn wheels, unloaded. Thus the top surface height of a ¾" thick main center sill top flange is roughly 41 – 1/2 inches above TOR. In the case of the staging, or false floor structures described above, the level of the false floor sheeting and hence of all points on the associated tapered risers, is above the level of the top flange **102** of main center sill **36**, that is, at a level that is at least 42 inches from TOR. In the preferred embodiment of Figure **3a**, this height, taken at the truck centers, for a new car with no lading and un-worn wheels, is 12 – ½ inches above the level of the main sill, or roughly 53 – ½ inches above TOR (+/- 1 inch).

Page 30, first full paragraph:

On assembly, L-shaped gussets **636, 637** are welded in each of sections **628, 629**. Gussets **636** and **637** each have a profile to match the inside profile of the upper regions of main sheet portions **630, 631**, legs **632, 633** and toes **634, 635**. The toes of gussets **636** and **637** are welded along their outboard edges to the inside face of main sheet portions **630, 631**. Sections **628** and **629** are welded along the centerline seam between abutting toes **634** and **635**. A further, main gusset **640** is trimmed to a shape to permit welding of its top edge to the underside of the toes **638, 639** of gussets **636, 637**, its side edges to the inner face of the lower regions of main sheet portions **630** and **631**; once welded in this manner, the base leg **642** of gusset **640** can be welded to toes **626** and **627** of angle irons **622** and **624**, with a plug weld formed to fill the longitudinal gap therebetween. Gusset **640** is also trimmed to have reliefs **644, 645** to permit entry between the upwardly extending legs of angle irons **622, 624**. Gussets **636, 637** and **640** are located at longitudinal stations that correspond generally to the longitudinal stations of posts

56 and 57 as the case may be. Legs 632, 633 of sections 628, 629 form, ideally, a flat surface to weld to top truss assembly 64, as before. Similarly, when installed, main sheet portions 630, 631 have slope continuity with flanges 496 and 498.

Page 30, second full paragraph:

In the alternative embodiment of Figures 10a and 10b, a deep upper beam 650 has a pair of formed sections 652, 654, a rectangular steel tube 656, a main gusset 658 and minor gussets 660 and 662. On assembly, minor gussets 660 and 662 are welded inside the lower regions of formed section 652 and 654, being shaped to conform to the shape of the lower region of outer main sheets 666, 668, inwardly stepped shoulder 670, 672, and inwardly extending legs 674, 676. A gap 'P' is left between the respective inboard edges of gussets 660 and 662, and their outboard edges are welded to the inner face of main sheets 666, 668. Gussets 660, 662 are trimmed to be clear of re-entrant toes 678, 680. Main gusset 658 is welded upon minor gussets 660, 662, with its lateral edges welded to the inside face of main sheets 652 and 654. Tabs 682, 684 at the distal ends of main sheets 666, 668 embrace the outer side faces of steel tube 656.

Page 32, second full paragraph:

Panel 830 could be as thick as 1/2 or 5/8 inches. Although panel 830 is preferably a metal sheet welded to posts 820, a different fastening means, such as rivets, bolts or the like, could be used. A smooth steel face is preferred, but other metals, such as aluminum, could be used, or a suitable, rot resistant, UV resistant polymer could be selected, either as a solid sheet or as a face coating or layer, or sheet, upon a metal substrate. It is preferred that the material chosen be a non-consumable material, that is, one that may tend not to be prone to require frequent replacement such as may be required if softwood lumber battens are used, and also one that has little or no tendency to develop wood rot or to support the growth of molds.

IN THE FIGURES

Please replace the sheets currently on file containing Figures 2a, 3a, 4b, and 6c with the enclosed replacement sheets containing the newly amended formal Figures 2a, 3a, 4b, and 6c.